THE UNIVERSITY OF WISCONSIN
Laboratory of Genetics
Genetics Building
MADISON, WISCONSIN 53706

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Department of Genetics
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Department of Medical Genetics
School of Medicine

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Dear Barbara:

Thanks for your letters with the selected seeds to illustrate simultaneous loss of a_1^{m-3} and Sh_2. The large package of seeds also arrived today, and I'll be looking for the second package. I'll be delighted to have the other mutables. I'll be propagating these against possible future use.

Since talking with you, our Florida crop has been returned and inspected. It is now clear that the plant from which I sent you samples last fall was indeed heterozygous for a mutable sh_2 that responds to Ac. That plant was 43117J and was (as it turned out) $\frac{a_1\ ^{m-3}sh_2\ ^{m-1}ET\ Ac}{a_1\quad sh_2\quad et}$ This plant was crossed onto W22 $A_1\ A_2$ CR pr in 1969 and a number of selves made in Florida in 1970. The plants carrying the a_1^{m-3} chromosome were of three types: (1) those where both $a_1^{m-3} \longrightarrow A_1$ and $sh_2^{m-1} \longrightarrow Sh_2$ events are observable; (2) a few in which $sh_2^{m} \longrightarrow Sh_2$ events are seen but $a_1^{m-3} \longrightarrow A_1$ events had already taken place so the kernels are quite uniformly dark; (3) plants segregating for a_1^{m-3} and sh_2^{m-1}, but Ac is absent. Seeds illustrating all these classes are being sent under separate cover for your inspection, and I'll be interested to learn if you confirm my diagnosis.

Ac controlled.

I've only sent the kernels in which the Sh_2 sectors are rather large. There are others (similar to the "puffy" type I sent last fall) which I suspect to arise from numerous late events. But the edges are not sharp on the Sh_2 sectors (possibly because ADPG may diffuse from cell to cell), and it is difficult to be certain that one is actually seeing small Sh_2 sectors.

It's also interesting that the sh_2^{m-1} is linked to a_1^{m-3}. Transposition of Ds to Sh_2 on this chromosome must have been from the homologous chromatid.

Thus letter answered by telephone · May 22 (stocks of above sent parcel post - delayed in country here)

I'm also sending some kernels from last fall's progeny showing $\underline{sh_2}$ sectors arising in the endosperm. Some of these are not simultaneous losses of a_1^{m-1} and Sh_2. Some could be, and with some colorless k's, it isn't possible to say. All these arise from a sh_2^s/sh_2^s; wx/wx stock pollinated by your stocks $\frac{a_1^{m-1}(5720)\,Sh_2}{a_1^{m-1}(5720)\,Sh_2}$ with various numbers of Spm present.

Also being sent is an ear of the type I described in one of our conversations. This is from your stock 8777 $\frac{a_1^{m-1}(5720)\,Sh_2}{a_1^{m-1}(5718)\,Sh_2\ Spm}$ I x 8786A pollinated by sh_2^s/sh_2^s; wx/wx; Y/Y. The intriguing feature is the numerous white kernels which seem to be dominant whole kernel events. I do see several kernels with white and yellow sectors, but this is rare. At any rate, I've seen nothing like this before and wondier if it's familiar to you.

You may well be gloomy about the state of the universities. I am. I started this letter while taking an evening fire watch here in the Genetics Building. We had decided to have a graduate student or staff member here around the clock in the event a radical student decided to toss in a Molotov cocktail. So far this hasn't happened, but it might still. Between the radical students who are wrapping in lots of demands along with the dissatisfaction with the war and a conservative board of regents, the university might well be ground up. Certainly, it will never again be the same. Many buildings here are ringed by the National Guard. We're having a week-long moratorium on classes with marathon discussions of issues. It's not an atmosphere conducive to academic life, and I find it terribly difficult to concentrate on anything. Imagine how difficult it is for students who are not as motivated as I and who don't escape to a calm and restful home every evening.

Thanks again for all the care you've taken to send seed. With best personal regards, I am

Sincerely yours,

Oliver E. Nelson, Jr.
Professor of Genetics

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